

**United States Environmental Protection Agency**

One Congress Street, Suite 1100

Boston, MA 02114-2023

**Addendum to Fourth Five-Year Review Report
McKin Company Superfund Site**

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A Five-Year Review addendum is generally completed for remedies where the protectiveness determination is deferred until further information is obtained. When deferring protectiveness in the Five-Year Review report, a timeframe is provided for when the information will be obtained and a protectiveness statement can be made. This document provides progress since the Five-Year Review and protectiveness determinations for the remedy where the statement was deferred in the September 30, 2008 Five-Year Review.

The fourth Five-Year Review Report (Report) for the McKin Company Superfund Site in Gray, Maine, was signed by Richard Cavagnero, Deputy Director of EPA Region 1's Office of Site Remediation and Restoration on September 30, 2008. The protectiveness statements presented in the Report were as follows:

Operable Unit 1: On-Site (Facility) Remedy

The on-site remedy (OUI) at the McKin Company Superfund Site currently protects human health and the environment because the soil remediation is complete and the Town of Gray ordinance and other institutional controls prohibit the use of groundwater. However, in order for the remedy to be protective in the long-term, institutional controls are needed on the McKin property. In addition, the approved site closure activities (decommissioning of monitoring wells, infiltration galleries, decontamination pad and removal of all equipment) to prevent accidental exposure to the groundwater need to be implemented.

Operable Unit 2: Off-Site Groundwater Remedy

The off-site groundwater remedy (OU2) at the McKin Company Superfund Site currently protects human health and the environment because the Town of Gray ordinance prohibits the use of groundwater and other institutional controls are in place. The remedy will remain protective as long as the institutional controls are monitored, maintained, and if necessary, enforced. Without the installation of the 900-series wells that would provide bedrock data, it is expected that the institutional controls will need to remain in place beyond the predicted attainment of federal and state drinking water standards for the overburden groundwater by 2036.

Operable Unit 2: Off-Site Vapor Intrusion Pathway

No remedy has been selected to address the vapor intrusion pathway, and thus, a protectiveness determination for this pathway cannot be made until further information is obtained.

Site-Wide Protectiveness Determination

The remedial actions at OU1 are protective; however, because a protectiveness determination cannot be made at this time for OU2, the protectiveness of human health for the entire site is deferred. The following actions need to be taken to ensure protectiveness: complete the second phase of the vapor intrusion investigation; determine whether further investigation is necessary, and then perform a final risk assessment of the vapor intrusion data. It is expected that the second phase activities will be completed by the end of 2008, and any further investigation and risk assessment by summer 2009.

This addendum addresses the Protectiveness Statements for OU1, OU2, and site-wide.

Progress Since the Fourth Five-Year Review Completion Date

Operable Unit 1: On-Site Remedy

The Town of Gray adopted a Groundwater Ordinance on January 22, 2002 that prohibits use of groundwater within the entire Institutional Control Zone which is in turn larger than the two plumes emanating from OU1. While this ordinance remains in place and has been effective in preventing groundwater use in the IC Zone, the intent of the 2001 ROD Amendment was to have overlapping institutional controls to assure protectiveness. Thus the ROD Amendment called for institutional controls in the form of environmental covenants were to be attained on the McKin property itself. The Settling Defendants have reported that their efforts to attain these covenants have been rebuffed by the property owner. However, as the property owner has just contacted Maine Department of Environmental Protection (MEDEP) regarding access, this provides another opportunity to secure institutional controls on the property. In the interim, the remedy remains protective of human health through the Groundwater Ordinance.

Operable Unit 2: Off-Site Groundwater Remedy

As part of the approach to assure protectiveness for human health and the environment, the remedy selected in the 2001 ROD Amendment included obtaining analytical data from the bedrock aquifer. These data were to be obtained from a series of new monitoring wells that were to be located along the perimeter of the IC Zone. These wells, designated the 900-series wells, would monitor the plumes' position and potential for lateral expansion. Data from the 900-series wells were to be used to establish that the plumes have not expanded to areas beyond the IC Zone. In addition, the data would be used as a basis to remove institutional controls from

individual properties as contaminant levels in groundwater decreased over time. All of these wells were to be installed on private properties.

In compliance with the Remedial Action Work Plan, Appendix A to the December 2001 Consent Decree Amendment, the Settling Defendants contacted the property owners in early 2002 to discuss access for the 900-series wells. These contacts continued into summer 2002 and were joined by EPA's project manager. Ultimately, after many meetings with the property owners to reach resolution on access and compensation, the discussions collapsed. Consequently, the Report stated that because of the inability to obtain access and thereby obtain water quality data from the bedrock, it is expected that the institutional controls would need to remain in place beyond the predicted attainment of federal and state drinking water standards for the overburden groundwater by 2036.

Following up on the Report, EPA, MEDEP, and the Settling Defendants' consultant met on February 25, 2009 to discuss resolution of the 900-series wells issue. Upon revisiting the proposed locations and number of wells relative to the scale of the Site (estimated at more than 650 acres and a perimeter of several miles), all parties concurred that even if the wells were installed, substantial uncertainty would remain. This uncertainty would therefore limit the use of the data as the basis to remove institutional controls from individual properties. Consequently when this technical recognition was combined with the difficulty in obtaining access, the parties agreed that further pursuit of access was not warranted. EPA and MEDEP (joint-lead agencies for this Site) agreed to explore the appropriate vehicle to formally document this change in the selected remedy.

Protectiveness would continue to be maintained through the Town of Gray Groundwater Ordinance and individual restrictive covenants on all sub-dividable properties within the IC Zone.

Operable Unit 2: Off-Site Vapor Intrusion Pathway

The potential vapor intrusion pathway was not addressed in either the 1985 ROD or the 2001 Amended ROD. Following the issuance of draft guidance in November 2002 by EPA regarding this potential pathway, vapor intrusion was identified in the 2003 and 2008 five-year reviews as a potential source of exposure to site-related contamination. EPA collected soil gas and groundwater samples from beneath roadways around the Site in 2006. Based on these results, EPA collected indoor air samples in June 2008.

The third phase of the vapor intrusion study was conducted in 2009. The main objective of the study was to determine if volatile organic compounds from the contaminated groundwater plumes are volatilizing and migrating through the soil into the homes and adversely impacting indoor air quality at neighboring homes to the Site. Six homes were selected for sub-slab soil gas and indoor air sampling and analysis during the first two phases of investigation. During the third phase of sampling, a subset of only two homes was re-sampled. All sampling data were compared to the applicable EPA screening concentrations and were used to calculate a human

health risk assessment.

While there were exceedances of some EPA screening levels, the risk assessments performed on the data collected from the homes sampled during the Phase II and Phase III events indicate that the risks are within EPA's acceptable risk range (e.g. 10⁻⁴ to 10⁻⁶). However, this exposure pathway will be evaluated during the next five-year review.

Issues and Recommendations

After a long period of non-involvement, the property owner recently contacted MEDEP regarding the property. MEDEP and EPA will assist the PRPs as needed to obtain appropriate institutional controls on the property.

The installation and sampling of the 900-series were part of overlapping components in the 2001 ROD Amendment to ensure protectiveness of human health and the environment. When access was not obtained after a prolonged effort, EPA, MEDEP, and PRPs reassessed this component of the selected remedy. The parties concurred that the proposed 900-series wells would provide insufficient value in determining the restoration of the groundwater. The agencies will develop the appropriate vehicle to formally document this change in the selected remedy.

The vapor intrusion data collected in April 2009 did not constitute a current unacceptable risk. However, as the data were close to Maine's incremental lifetime cancer risk values, MEDEP recommended that follow-up sampling and analysis be performed in winter-spring 2013 prior to the next five-year review.

<u>Issues</u>	<u>Recommendations /Follow-up Actions</u>	<u>Party Responsible</u>	<u>Oversight Agency</u>	<u>Milestone Date</u>	<u>Affects Current Protectiveness (Y/N)</u>	<u>Affects Future Protectiveness (Y/N)</u>
ICs on McKin property	Work with property owner to place ICs on property	PRPs	EPA and MEDEP	Sept 2010	N	Y
900-series wells	Document new approach	EPA/ MEDEP	-	Sept 2010	N	N
Vapor Intrusion Pathway	Consider adding sampling and analysis in 2013	EPA/ MEDEP	NA	December 2012	N	Y

Protectiveness Statements

Based on new information and actions taken since the Five-Year Review completion date, the protectiveness statements for OU2 and site-wide are being revised as follows:

Operable Unit 1: On-Site Remedy

The remedy at OU1 currently protects human health and the environment because the Town of Gray Groundwater Ordinance protects human health in the short term. However, in order for the remedy to be protective in the long-term, institutional controls on the McKin property need to be secured to ensure long-term protectiveness.

Operable Unit 2: Off-Site Groundwater Remedy

The groundwater remedy at OU2 is expected to be protective upon completion or is protective of human health and the environment, and in the interim, exposure pathways that could result in unacceptable risks are being controlled.

Operable Unit 2: Off-Site Vapor Intrusion Pathway

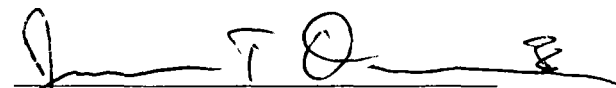
The vapor intrusion pathway remedy at OU2 currently protects human health because the vapor intrusion data are within federal and state acceptable risk range and therefore are protective of human health in the short term. However, in order for the remedy to be protective in the long-term, the vapor intrusion pathway should be periodically assessed to ensure long-term protectiveness.

Site-Wide Protectiveness Statement

Because the remedial actions at all OUs are protective, the site is protective of human health and the environment.

Next Five-Year Review

The next five-year review will be completed on September 30, 2013, five years after the signature of the last five-year review report.


James T. Owens, III, Director
Office of Site Remediation and Restoration

9/21/09
Date